a few centimeters into the blade, whereas in the Louisiana palmetto the prolongation may extend for as much as 40 cm. Important differences also appear in the number and width of the segments and in the size of the fruits and seeds (the Louisiana palmetto usually has a smaller fruit with a proportionately larger seed). When the erect habit is assumed, the underground portion of the Louisiana palmetto slants from the horizontal and gradually turns upward.

The palm referred to by Darby is unquestionably a species of *Sabal*, and, since *Sabal deeringiana* Small, applied definitely to Louisiana trunked palmettos, is antedated by Darby's name, the plant should be known as *Sabal louisiana* (Darby) Bomhard, comb. nov., the synonomy being as follows:

Chamaerops louisiana Darby, Geog. Descrip. Louisiana ed. 1. 194, also 205, 206, 216. 1816.

Sabal adansoni Raf. Fl. Ludov. 16. 1817, not Guersent, 1804.

Sabal ? adiantinum Raf. Fl. Ludov. 17. 1817.

Chemaerops [sic] *latanier* Flint, Condensed Geog. & Hist. West. States 1: 85. 1828.

Sabal deeringiana Small, Torreya 26: 34. 1926.

ORNITHOLOGY.—*Avian bones from prehistoric ruins on Kodiak Island, Alaska.*[1] HERBERT FRIEDMANN, U. S. National Museum.

During the summer of 1934 Dr. Ales Hrdlicka, curator of physical anthropology, United States National Museum, continued his work on Kodiak Island, and amassed, among other materials, a large collection of bird bone. A smaller lot, collected two years before, yielded so much of value that the study of the present much more extensive material was looked forward to with interest. That it has not been disappointing may be seen from the following account.

The age of the sites from which the bones were exhumed is not known with any accuracy, but they are definitely prehistoric, that is, pre-Russian (late 18th Century). This, of course, involves a span of years too short to be of significance as far as the birds are concerned, however much it may mean anthropologically. The specimens herein reported on were marked in the field according to the relative depth

[1] Published by permission of the Secretary of the Smithsonian Institution. Received November 23, 1934.

at which they were found—deep, intermediate, or superficial. The deeper the deposit, the older are the bones, but here again the time scale for the deposition rate is only inferential. Dr. Hrdlicka estimates the difference in age between the deepest and the superficial layers at about 1500 years.

In order to appreciate the full ornithological significance of the collection, it was first necessary to ascertain just what kinds of birds were known to occur on Kodiak Island. A search of the literature revealed how little work has been done there, especially considering its size and proximity to the mainland of Alaska. No paper dealing exhaustively with the avifauna of Kodiak appears to have been published; this I hope to do in the near future for the benefit of other students of Alaskan ornithology as all the data are now assembled before me.

The present collection contains bones of 40 species of which 7 have not been recorded in literature before from Kodiak Island. These are as follows:

Diomedea nigripes	Black-footed Albatross
Cygnus buccinator	Trumpeter Swan
Chen rossi	Ross's Goose
Nyroca affinis	Lesser Scaup
Glaucionetta clangula	Golden-Eye
Haliaeetus albicilla	Gray Sea Eagle
Stercorarius longicaudus	Long-tailed Jaeger

In Dr. Hrdlicka's 1932 collection, reported on in an earlier paper,[2] were bones of 8 other species that were unrecorded in literature from Kodiak Island. Of these, 5 are also represented in the present collection. These 8 are

Gavia immer	Common Loon
Phalacrocorax carbo sinensis	Chinese Cormorant
Clangula hyemalis	Old Squaw
Arctonetta fischeri	Spectacled Eider
Melanitta deglandi	White-winged Scoter
Melanitta perspicillata	Surf Scoter
Bubo virginianus algistus	Saint Michael Horned Owl
Surnia ulula caparoch	American Hawk Owl

Thus, in two summers' excavating, in a field to one side of the major work of the expeditions, no fewer than 15 species have been added to the recorded avifauna of Kodiak Island. Inasmuch as the total bird population, as far as recorded, comprises about 125 forms, we must credit nearly one-eighth of them to osteological records.

[2] FRIEDMAN, H. This JOURNAL 24: 233–236. 1934.

The following annotated list deals only with the 1934 collection.

GAVIA IMMER (Brünnich). Common Loon.

Two metacarpals were found in the superficial layer. On the basis of geography, these records should refer to the lesser loon, *Gavia immer elasson*, but the races are not to be told with certainty from the bones.

GAVIA ADAMSI (Gray). Yellow-billed Loon.

This large loon was represented in all three depths, the superficial stratum yielding a synsacrum, a tibiotarsus, and a tarsometatarsus; the intermediate depth revealed a metacarpal; a metacarpal and a tarsometatarsus come from the deepest layer.

GAVIA ARCTICA PACIFICA (Lawrence). Pacific Loon.

Represented by a single metacarpal from the deepest layer.

GAVIA STELLATA (Pontoppidan). Red-throated Loon.

A tarsometatarsus from the superficial stratum and a metacarpal from the deepest layer represent this species.

COLYMBUS AURITUS Linnaeus. Horned Grebe.

A tarsometatarsus from the intermediate depth and a humerus from the superficial stratum are the only bones of this grebe found.

DIOMEDEA NIGRIPES Aububon. Black-footed Albatross.

This species, represented by a femur from the deepest layer, 3 femora from the intermediate area, and by 5 femora, 1 synsacrum, and 1 tarsometatarsus from the superficial layer, has not been previously reported from the island.

PHALACROCORAX PELAGICUS Pallas. Pelagic Cormorant.

The bones of this species show great variation in size; if only the two extremes were present, one might think them different species. This cormorant is one of the common birds on Kodiak Island and it is represented by numbers of bones as follows: deepest layer, 5 tarsometatarsi, 4 tibiotarsi, 3 coracoids, 6 femora, 4 humeri, 7 ulnae; intermediate layer, 13 tarsometatarsi, 11 tibiotarsi, 8 coracoids, 21 femora, 18 humeri, 21 ulnae; superficial layer, 2 tarsometatarsi, 10 tibiotarsi, 4 coracoids, 16 femora, 8 humeri, and 11 ulnae.

On the basis of geography these specimens should be of the typical race, *Ph. p. pelagicus*.

CYGNUS COLUMBIANUS (Ord.) Whistling Swan.

The whistling swan is represented by a "thumb" phalanx found in the superficial layer.

CYGNUS BUCCINATOR Richardson. Trumpeter Swan.

The intermediate depth revealed 2 right coracoids and the head of a humerus of this bird. The humerus was notably large, somewhat greater in size than any specimen available for comparison. It had the shaft cut off and had been worked by the early Eskimos as a beveled edge had been made around the cut surface. The superficial layer yielded a fragmentary humerus.

PHILACTE CANAGICA (Sevastinaoff). Emperor Goose.

The emperor goose is represented by a coracoid from the deepest stratum.

ANSER ALBIFRONS (Scopoli). White-fronted Goose.

A metacarpal, found in the intermediate layer, is of this species.

CHEN ROSSI (Cassin). Ross's Goose.

A single ulna from the superficial layer represents this species which is new to the Kodiak fauna. The previous record[3] is erroneous; the bone, a skull, is found, on further study to be that of a black brant, *Branta nigricans*.

ANAS PLATYRHYNCHOS Linnaeus. Mallard.

The mallard is known to breed in the Aleutian Islands and the whole Alaskan peninsula, so its occurrence on Kodiak is wholly to be expected, and the scarcity of previous records must be looked upon as solely due to lack of observation and work in that place. It is represented in the present collection by 54 humeri; of these 3 come from his deepest layer, 16 from the intermediate depth, and 35 from the superficial stratum.

DAFILA ACUTA (Linnaeus). Pintail.

The pintail is represented by 25 humeri, 3 from the deepest, 5 from the intermediate, and 17 from the superficial layers. These bones probably refer to the American subspecies *tzitzihoa*.

NYROCA AFFINIS (Eyton). Lesser Scaup Duck.

Four humeri, 1 from the intermediate, and 3 from the super-

[3] This JOURNAL 24: 234. 1934.

ficial layers, are the only evidence of this duck's occurrence on Kodiak Island.

GLAUCIONETTA CLANGULA (Linnaeus). Golden-eye.

Of this duck the intermediate layer yielded a coracoid; the superficial stratum a syrinx, a skull, and 2 humeri. By virtue of geography the bones should be referred to the American subspecies, *G. c. americana*. The species is new to the Kodiak avifauna, as far as published records go.

CLANGULA HYEMALIS (Linnaeus). Old Squaw.

This duck is represented in all three depths, as follows: deepest layer, 1 humerus, 2 coracoids, intermediate area, 8 humeri, 2 coracoids, superficial layer, 12 humeri, 3 coracoids.

HISTRIONICUS HISTRIONICUS (Linnaeus). Harlequin Duck.

A single coracoid of this duck was found in the superficial layer. It is undoubtedly of the western race *pacificus*.

POLYSTICTA STELLERI (Pallas). Steller's Eider.

Bones of Steller's eider were found in all three depths. The deepest layer revealed 2 humeri; the intermediate layer yielded 9 humeri; the superficial stratum produced 14 humeri, 1 coracoid, and 1 tarsometatarsus.

SOMATERIA V-NIGRA Gray. Pacific Eider.

The Pacific eider is represented by a sternum and a metacarpal from the deepest layer, 3 metacarpals from the intermediate layer, and 2 skulls, 3 tarsometatarsi, and 2 metacarpals from the superficial deposits.

SOMATERIA SPECTABILIS (Linnaeus). King Eider.

This is one of the most abundant waterfowl on Kodiak Island, if we may judge from the number of its bones found. The deepest layer yielded 13 humeri, 1 metacarpal, 4 ulnae, and 3 tarsometatarsi; the intermediate depth produced 17 humeri, 5 metacarpals, 3 ulnae, and 7 tarsometatarsi; from the superficial layer were taken 46 humeri, 2 sterna, 1 skull, 11 ulnae, 2 femora, and 7 tarsometatarsi.

MELANITTA DEGLANDI (Bonaparte). White-winged Scoter.

The collection contains 56 bones of this duck, distributed as follows: deepest layer, 2 coracoids, 3 metacarpals, 6 femurs; intermediate layer, 1 humerus, 1 coracoid, 2 metacarpals, 19 femora; superficial layer, 1 skull, 3 metacarpals, 18 femora.

MELANITTA PERSPICILLATA (Linnaeus). Surf Scoter.

The surf scoter is represented by a femur from the deepest layer, 7 femora and a tibiotarsus from the intermediate stratum, and 6 femura, 3 tibiotarsi, 2 skulls, and 2 sterna from the superficial deposits.

OIDEMIA AMERICANA Swainson. American Scoter.

A coracoid and 2 humeri from the intermediate layer, and a coracoid and 6 humeri from the superficial stratum are of this species.

HALIAEETUS ALBICILLA (Linnaeus). Gray Sea Eagle.

This eagle is represented by 2 tarsometatarsi and 1 metacarpal from the surface deposits. It is not only a new bird for Kodiak Island, but is the fourth known record for North America, the others being from Unalaska, Cumberland Sound, and off the coast of Massachusetts.

HALIAEETUS LEUCOCEPHALUS (Linnaeus). Bald Eagle.

The bald eagle is abundant on Kodiak Island and is well represented in the present collection. From the deepest layer come 2 humeri, 2 coracoids, 1 clavicle, 1 scapula, 2 tarsometatarsi and 3 metacarpals; from the intermediate stratum are 1 synsacrum, 2 humeri, 3 femora, 4 coracoids, 4 tibiotarsi, 1 scapula, 4 tarsometatarsi, and 11 metacarpals; from the superficial layer are 2 sterna, 4 fragments of synsacra, 12 skulls or fragments of skulls, 10 humeri, 15 femora, 6 coracoids, 10 tibiotarsi, 2 ulnae, 1 scapula, 10 tarsometatarsi, and 12 metacarpals.

THALASSOAETUS PELAGICUS (Pallas). Steller's Sea Eagle.

This fine eagle was previously known from Kodiak Island on the basis of one record, a bird shot there on August 10, 1921 by C. H. Gilbert.[4] It is of interest to find that bones referable to it are included in the present collection, as follows: from the deepest layer 2 humeri, from the intermediate layer, 1 synsacrum (fragment), 2 humeri, 1 metacarpal, 2 tarsometatarsi, 1 caracoid, 2 tibiotarsi, and 1 claw; from the superficial layer, 1 sternum, 1 synsacrum (fragment), 1 pair of mandibles, 2 metacarpals, 2 ulnae, 1 tarsometatarsus, 4 femora, and 3 tibiotarsi.

GRUS CANADENSIS (Linnaeus). Little Brown Crane.

This bird has been recorded but once previously from Kodiak Island. It is represented in the present collection by a radius from the

[4] Condor 24: 66. 1922.

intermediate area, a coracoid, a tarsometatarsus, and an ulna from the surface deposits.

STERCORARIUS LONGICAUDUS Vieillot. Long-tailed Jaeger.

Three humeri from the intermediate and superficial layers represent this species. It is new to Kodiak Island.

LARUS GLAUCESCENS Naumann. Glaucous-winged Gull.

A good number of bones of this gull were found, as follows: in the deepest layer, 1 humerus, 2 ulnae, 3 femora, 2 tarsometatarsi and 4 metacarpals; from the intermediate layer, 6 humeri, 2 tibiotarsi, 1 coracoid, 2 femora, and 9 metacarpals; from the superficial layer, 4 humeri, 1 coracoid, 1 femur, 2 tarsometatarsi, and 11 metacarpals.

LARUS ARGENTATUS Brunnich. Herring Gull.

From the deepest layer 1 metacarpal was collected; from the intermediate depth came 4 humeri, 1 coracoid, 1 tarsometatarsus, and 9 metacarpals; from the superficial layers 2 humeri, 1 coracoid, 2 tarsometatarsi, and 2 metacarpals were collected. The bones may refer to the race *smithsonianus*, or to *thayeri*, or even to *vegae*!

LARUS CANUS BRACHYRHYNCHUS Richardson. Short-billed Gull.

This gull is represented by 3 tarsometatarsi from the superficial layer.

URIA AALGE CALIFORNICA (Bryant). California Murre.

URIA LOMVIA ARRA (Pallas). Pallas's Murre.

Bones of these two murres are practically indistinguishable and accordingly I have had to treat them together. Both species are very common on Kodiak Island and both are undoubtedly present in the following series of bones. From the deepest layer, 57 humeri, 1 skull, 1 tarsometatarsus, 1 tibiotarsus, 26 ulnae, 2 metacarpals, 10 femora; intermediate layer, 53 humeri, 3 skulls, 1 synsacrum, 1 tarsometatarsus, 2 tibiotarsi, 18 ulnae, 3 metacarpals, 6 femora; from the superficial layer, 43 humeri, 1 sternum, 7 skulls, 1 clavicle, 15 ulnae, 5 coracoids, 6 metacarpals, 12 femora.

CEPPHUS COLUMBA Pallas. Pigeon Guillemot.

This bird is represented by 2 ulnae from the deepest deposits and 2 ulnae and 2 humeri from the surface layers.

CYCLORRHYNCHUS PSITTACULA (Pallas). Paroquet Auklet.

Of this auklet there are 14 humeri, 7 from the deepest, 3 from the intermediate, and 4 from the superficial layers.

LUNDA CIRRHATA (Pallas). Tufted Puffin.

The tufted puffin is represented by bones from all three depths, as follows: deepest layer, 3 humeri and 3 ulnae; intermediate layer, 2 humeri, 1 femur, 1 metacarpal, and 6 ulnae; superficial layer, 1 sternum, 1 humerus, 1 femur, 2 ulnae, and 1 tibiotarsus.

PICA PICA HUDSONIA (Sabine). American Magpie.

One femur from the deepest layer; 1 humerus from the intermediate stratum; and 2 skulls, 1 tarsometatarsus, and 1 femur from the superficial layer refer to this species.

CORVUS CORAX PRINCIPALIS Ridgway. Northern Raven.

The raven is common on Kodiak Island and is well represented in the present collection as the following list shows. From the deepest layer, 1 skull, 1 humerus, 3 ulnae, 1 tibiotarsus, 3 metacarpals, 1 coracoid, and 4 tarsometatarsi; from the intermediate layer, 6 humeri, 6 ulnae, 1 radius, 6 tibiotarsi, 5 metacarpals, and 1 tarsometatarsus; from the superficial layer, 3 skulls, 8 humeri, 7 ulnae, 5 tibiotarsi, 11 metacarpals, and 4 femora.

CORVUS BRACHYRHYNCHOS CAURINUS Baird. Northwestern Crow.

The small, northwestern crow is a common inhabitant of Kodiak Island. Its bones were found in all the layers of the excavations, as follows: from the deepest stratum, 2 femora, 1 tibiotarsus, and 3 ulnae; from the intermediate depth, 6 femora, 4 tibiotarsi, and 2 ulnae; from the superficial layers, 1 skull, 5 humeri, 3 femora, 5 tibiotarsi, and 17 ulnae.

SCIENTIFIC NOTES AND NEWS

Prepared by Science Service

NOTES

Science Advisory Board.—Through the Science Advisory Board, created by presidential executive order last year, scientists not on the Government payroll have been active in the reorganization of the work of not less than six bureaus in various departments of the Federal Government, under the program authorized by act of Congress early in 1933. They have also advised on the scientific problems confronting a number of independent Government agencies not connected with any special department.

Major revisions and extensions of program were contemplated by the Government in the Weather Bureau and the Bureau of Chemistry and Soils of the Department of Agriculture, in the National Bureau of Standards of the Department of Commerce, and in the Bureau of Mines, the Geologi-